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THE ELEMENTARY SCHOOL TEACHER

JANUARY, 1904

THE SCOPE OF GEOGRAPHY.

THE position of any subject in the school curriculum depends upon its appraised educational worth. Sometimes the mirror of values is turned toward the future, at other times it claims to reflect the present. Geography has moved up and down the scale of educational importance since the time of the cultured Athenians, disappearing entirely from the curriculum when its import was low, returning when the public interest expanded from local to international concern, or when the physical and intellectual life of the people was focused into the same era of time. Geography has never occupied the first place in the school curriculum as a cultural subject, but in rare instances its utility has given it the highest standing, as in the school of navigation established by Prince Henry at Segres in the fifteenth century, and in modern times in the colonial schools maintained by certain European governments. The educational status of the subject has not been due to its content, but to its pedagogy. Teachers have looked upon it as a collection of facts which could be memorized; and if action rather than speech can be taken as a reflex of thought, the majority of the army of teachers still maintain this conception. This does not refer to the superior teachers in every department from the kindergarten to the college, but to the great teaching body which shapes our educational policies. This statement is not based upon deductions from pessimistic theory, but from work seen during the last year in schools located between the Rocky Mountains and Newfoundland.

The slowness of the progress of educational ideas is realized when we read what Comenius said more than three centuries ago: "We know the elements of geography when we learn the nature of the mountains, the plains, the rivers, citadels, or states according to the section of the place in which we were reared." I doubt if the pedagogues of Comenius's day lent responsive ear to his teaching, but once a true chord is struck it vibrates forever.

A century and a half later Rousseau took up the strain, and in his *Emile* says: "Let him learn his first geography in the town he inhabits, stimulating his imagination by expressing wonder as to natural phenomena."

One hundred years ago Pestalozzi did more than point out the way the pedagogically redeemed should go. He, rising higher than most educational philosophers, tested by practice his inspiring theories. Professor Louis Vuillemin in *Remembrances* describes the method of geography teaching when Pestalozzi had his school at Yverdon, Switzerland. He says:

The first elements of geography were taught us on the soil. As a beginning our walk was directed toward a narrow valley, in the neighborhood of Yverdon, through which the Buron flows. We were made to contemplate it as a whole and in detail, until we had a true and complete mental picture of it. Then we were each invited to lay in a store of clay which was found on one side of the valley, and we wrapped it up in large sheets of paper we had brought for the purpose. On our return to the castle the long tables were divided among us, and we were left to reproduce in relief the valley which we had just studied. The following days brought new walks and new explorations, each furnishing a higher point of view, and each time a fresh extension was given to our work. We went on in this manner until we had accomplished the study of the basin of the Buron, and from the height of Monté La, which completely overlooks it, had grasped it in its entirety; and not until we had finished our reliefs, then, but only then, we passed from the relief to the geographic map, not being shown it until we had thus acquired an understanding of it.

This, so far as I can find, is the beginning of field work, which has been carried to a greater extent in Switzerland than in any other country in the world.

Ritter made two visits to Pestalozzi's school at Yverdon and was much gratified by what he saw. He says:

I have learned to value that method which is based upon the nature of

the child . . . it is now my business to bring this method to bear within the domain of geography. There is between nature study and history a great gap to be filled up. I have left Yverdon firmly resolved to fulfil the promise I made to Pestalozzi, namely, to apply his method to geography.

The United States owes to Karl Ritter an especial debt of gratitude, not only for his inspiring books, but for the instruction he gave to his excellent pupil, Arnold Guyot, who brought reform in geography teaching to this country. Harvard little knew what she was doing for the schools of America when, in 1848, she called from Europe that great teacher.

Mr. W. A. Alcott wrote in the *American Journal of Education* in 1858:

Prior to this, geography as a science had received little or no attention in the United States. A few schools studied Morse's *Geography*, a few others used a sort of reading book by Nathaniel Dwight, known as *System of Geography*, which was arranged in the form of questions and answers, but the majority of schools paid no attention whatever to the subject.

In 1825 Mr. Woodbridge and Mrs. Willard published a geography which was much in advance of those then in use. Immediately afterward Mr. Woodbridge sailed for Europe, being the first American who ever traveled abroad to enrich geography teaching.

The learning of boundaries and capitals, the location of cities and rivers, was the burden imposed upon the memories of helpless children. Some ingenious teacher, realizing the unspeakable drudgery such a task demanded, devised the plan of singing the geographic text to stimulate the flagging brain over the tedious road, just as the band plays to aid the wearied soldier on his march. I cannot find the name of the author to whom the honor of that most humane invention is due, but the method prevailed in many places in the States throughout the fifties and early sixties.

In 1866 Guyot's *Common School Geographies* appeared. The teachers were poorly equipped for using them, and in the majority of schools the books were unintelligible. Hence, Guyot's *Geographies* proved a financial failure. Mr. Tucker, of New York, in a letter written recently said: "Colonel Parker, of Quincy, Mass., was one among the first teachers to take up the work of Guyot. It

was in Quincy that he introduced modeling as a means of geographic expression."

Only within the last decade in this country has geography been able to rear its modest head into the etherial realm of intellect dominated by mathematics, and move in the exclusive set of culture presided over by literature, art, and foreign languages.

According to the dictionaries, "geography" is derived from two Greek words, *γέα*, "earth," and *γραφή*, "description," and I think we may say the progress in the teaching of geography has been shown in the transfer of the stress in the pronunciation of the word to the "gea" instead of the "graphe," crudely to interpret a statement once made by Professor T. C. Chamberlin. In the study of the "gea" — the earth — there is a demand for the training of all the senses which the study of the "graphe" precludes. Preyer says: "The fundamental condition of all mentality is activity of the senses." Unless the perceptive faculties are trained, thinking will be defective and judgment unreliable.

Since the study of geography was and is relegated principally to the middle grades in the elementary school, the pedagogy of the subject has been in harmony with psychological beliefs. Reason was thought to be a function of maturity, while the faculty of memory characterized the youthful mind. With the progress of child-study has come a change in the attitude toward the subjects of study. It has been found that even young children are interested in causal relations. Mr. Earl Barnes reports, as a result of his tests with thousands of children, that the majority are interested in the use of a thing rather than in its form or color; they wish to know the relation of things in this great world about them. It is in the intelligent conception of causal relation that we find the superiority of the civilized men over the untutored savage. It is not in the mere statement of causal relation which the child may memorize that he finds pleasure, but in the solution of a problem — the problem, his problem, and not that of a teacher — that he finds the greatest satisfaction. Children, as well as the adult, like to reason from known data to unknown consequences.

The belief that memorized facts stored away in the mind will be ready for use at a convenient time, has hypnotized the best of us. We are daily surprised at the emptiness of the intellectual store-houses of our students, into which we have previously poured a wealth of choicest facts. We fail in the pedagogical application of our knowledge of psychology for the selfsame reason, that the pupil finds his facts unusable. It was not acquired through action. We forget that images which make up the fabric of vital thinking must be related.

Dr. Dewey says :

Knowledge may be regarded as a sort of bridge, or connecting link, between some difficulty in action and a further successful or harmonized activity. Its significance lies in this intermediate position; that when knowledge is isolated from its origin and its goal it becomes artificial. From this point of view, we do not know how it came into existence, or for what it exists; in being made an end in itself it is made unreal. Knowledge is reduced to information, a load or burden of facts, which the individual has to carry without intelligent purpose.

The student discovers too late that ordinary unrelated knowledge is not power; that only scientific knowledge—unified, related experiences—are valuable.

The test we impose to discern the ability of our students is as fallacious as our knowledge-giving plan. We too often measure the student's power by what he can say, while the world classifies him by what he can do. Life justly criticises our pedagogic results.

The measure of progress in teaching geography is nowhere more strongly marked than in the use of field work. It was begun by Pestalozzi, but has made more headway in this country during the last decade than during all preceding time. Yet when the number of schools doing field work is compared with those which never leave the school buildings, the percentage is distressingly small. Field work has become an almost universal practice in the classes in geology and botany of the best universities of this country, and in some of the high schools a few excursions are made yearly. But in the elementary schools, in the majority of districts, field work is unknown. Why the teaching of Comenius, Rousseau, Pestalozzi, Ritter, Guyot, and others,

together with that of all our noted modern geographers, has failed to impress the lesson of field work upon the teaching body, finds its answer, I believe, in four separate causes: (1) The lack of appreciation by the teachers and the parents of its value in illuminating the geography work. (2) The timidity of the teachers in meeting difficulties which the field presents. Few teachers have been trained to read the expression of the world which lies about them; hence they naturally shrink from placing themselves in the position of instructor before a class of active, inquiring minds facing real, natural problems. (3) The physical strain of taking care of, say, forty pupils outside the schoolroom without proper assistance. (4) The expense which is necessarily incurred in visiting places beyond the walking distance from the school building. We know, however, that, if this objection is reduced to its lowest terms, it is not insurmountable. If field work were considered as valuable as other forms of instruction, the expense would not be prohibitive. The American people have, on the whole, what they truly want. Look at their school buildings and equipment! If we actively desired field work, it would be a part of every school curriculum. We passively want clean streets and good civic governments, but not until we make our demands active will they be granted. The majority of people really believe knowledge is acquired from books. Hence, if children can recite the contents of certain books, they are educated. Books certainly have the greatest function in our modern civilization, but we are all fortunately, or unfortunately, so constructed that we can read from books only our previous self-experience. It is the grossest absurdity to expect the child whose skyline is an eternal stretch of irregular roofs, and whose landscape is made up of dirty alleys, to appreciate the meaning of broad stretches of rolling prairies, dense tropical forests, and high, snow-capped mountains. Yet we find the books which are given to these children who are so unfortunately situated containing the same text as that provided for the children who spend their summers in the country and who travel some part of every year. I believe if the money spent on the geographies for these poor districts was devoted to field excursions, under the direction

of skilful teachers, there would be a much larger intellectual and moral return in citizenship than is received from the present investment.

With the best possible conditions the present geographic text is not what we wish it were. There has been a great improvement in the last few years; yet there is still much to be desired. Since advance in geography teaching has been largely in the universities, the best texts have been produced for the colleges. Many of the best books written for children have been produced by college professors, and in some cases they are illy adapted to elementary schools. As in everything else, we have a heavy geographic burden due to inheritance. The old cosmographies which were produced during the fifteenth and sixteenth centuries have, I believe, had no small effect upon the geographies of today. The modest title of one by Sebastian Munster, which appeared about the year 1534, illustrates their comprehensive character. It reads: *Cosmography—A Description of All the Lands and States of the Whole Earth—Its People, Animals, Products, Governments, Religions, etc.* Notwithstanding the growth of geographic knowledge, which bears in upon us as we read some of the astonishing statements in this popular work which went through twenty-four editions—such as, “the German Ocean is an inland sea,” “Iceland is joined to Norway”—we might still put the same title on the cover of many geographies used in our schools today. We have attempted to boil down all the knowledge of all the countries of the whole earth into a book of, say, 160 pages, with the result that it needs much intellectual diluting to be even palatable or digestible. The geographic readers have been a great boom to teachers of elementary geography, yet more are sorely needed. The good teacher must be superior to any text, but excellent books are invaluable.

To aid in solving problems found in the field and in books a laboratory is necessary. Field excursions alone can rarely give the answers to problems which arise as to the genesis of the forms of the earth which we find around us. We see a valley and may trace its circuitous path from its source to its débouchure, but the process of valley-making is so slow, except during severe

storms, that we cannot catch nature in magnified action. Hence the physical laboratory is a necessity for the understanding of physical processes. But the pupil himself should have the problem which he has found in nature and brings to the laboratory for solution. Crude apparatus which the child understands and can easily manipulate may be of greater value in experimentation than more refined materials. In the use of a hose and a hole in the ground the child may find greater scope than in an expensive laboratory. The young children love action; hence laboratory experiments are not only fascinating to them, but intellectually productive.

There is, perhaps, no greater evidence of the progress in geography teaching than the advance in the use of maps in all the schools. Yet we regret that what Rousseau said a century and a half ago is applicable to too much of our teaching today:

In every study signs are worthless without the idea they are to represent. Notwithstanding the child's study is confined to signs, it never becomes able to understand the things themselves. While one endeavors to give him an acquaintance with the earth, he makes the acquaintance of the map; he learns the names of cities, countries, and rivers; to the child they are nowhere except on paper.

If you doubt the correctness of the above statement as applied to present educational conditions, try the experiment upon a group of people of naming different places on the earth's surface, letting the hearers describe the first images which come into consciousness. I feel a confidence in saying that a large percentage of any gathering, geographers excepted of course, will see a map instead of the reality, for places they have never visited. Many noted teachers argue that they must see the map first, then force it out of consciousness by the image of the things or places for which it stands. This appears to be an intellectual extravagance. We cannot, I believe, place too high a value upon maps. Civilization could not exist without them, but to encumber the minds of helpless children with images of parti-colored maps, which always appear in consciousness instead of the correspondence to the real country or city, is, it seems to me, little short of a pedagogic crime. We cannot help agreeing with Rousseau in what he says in *Emile*:

You want to teach the child geography, and you seek for globes, spheres, maps, and a host of apparatus! What is the good of all these representations? Why do you not begin by showing him the object itself, so that he knows at least what you are speaking to him about? . . . After all, it does not so much matter that he should know exactly the topography of the country as how to teach himself about it; it matters little whether he have maps in his head so long as he understands well what they represent and has a clear idea of the art necessary to make them. Behold already the difference between the knowledge of your pupils and the ignorance of mine! They know their maps; he makes them.

It is through making maps of regions visited that the child understands conventions used in map-making. He may make a simple road map showing the direction of travel upon an excursion, or may model the relief seen in sand, or represent it by shading or hatching lines, or show it by contours, or by the international color scheme; and by so doing he gains the alphabet of maps, which is one of the highest accomplishments of the geographer.

Map-making is one of the oldest of the arts. Hence, from the history of its development we may get pedagogic instruction. Among primitive people the necessity for maps found a satisfactory response long before writing was invented. Stanley tells of the aid he received from the Uganda, who made relief maps of their country in the sands along the lakeshores. Travelers in every part of the world have acknowledged a similar indebtedness to the untutored natives, from the islands of the south seas to the frozen shores of Greenland. Finding that fixed maps could not meet the needs of the hunter, the warrior, and the seafarer, they have shown great ingenuity in the manufacture of portable maps.

The Micronesians, of Marshall Islands, made maps of their islands by fastening stones or shells to a background of woven splints of palm, the size and location of the shells or stones corresponding to the area and position of the islands. They expressed their knowledge of hydrography by widening the splints where the swells or waves increased, as would be the case on nearing land. Captain Cook paid high tribute to the cartographic ability of the south sea islanders. He told of his successful cruise through forty degrees of longitude among the Australian archi-

pelago under the guidance of Tupaya, a native of Tahiti. The Ainos of Japan, and the Tunguses and other tribes of Siberia, have won the gratitude of travelers by the maps which they have made for them. Franklin, Parry, Hayes, and other arctic explorers have expressed their appreciation of maps made by the Eskimos. The entire Aztec country was mapped when the Spaniards reached Mexico, and these maps were of such excellence that Cortez traveled hundreds of miles by their guidance. They represented mountains, rivers, towns, forests, and political divisions with much detail and accuracy. The Peruvians were also quite advanced in the art of cartography when stricken by the Spanish. They possessed relief and political maps of their country which were of great value to their destroyers.

Economic interests seem to have been a great stimulus to the ancient as well as to the modern map-makers, for the oldest map known to be in existence is one which represents a mining district in Nubia, made during the reign of Rameses II. It represents the mountains and valleys, showing rocks which were rich in ore and those which were barren, not omitting the wells and the few scattered trees along the road leading into that desolate country.

The great problem of map-making with our students as well as in the evolution of cartography has been to give graphic expression of geographic facts consistent with an assumed convention. While we may smile at the maps of the Middle Ages, which contain pictures of mountains, houses, men, and imaginary monsters, yet we must commend the motive which prompted this grotesque representation, for it was a direct appeal to the imagination, and a map which does not arouse the imagination fails in its purpose.

Hereford's very fanciful map, which gave little heed to the restraining influence of truth, but reveled in delightful imagination when knowledge was exhausted, lays high claim to usefulness, for to it is imputed the honor of so arousing the imagination of Milton that his poetic fancy gave *Paradise Lost* to the world.

The progress of map-making has been in the direction of greater truthfulness, which also means greater usefulness, but the attempt to be truthful and at the same time graphic has been

the maelstrom which has engulfed many cartographers. Those who are striving for accuracy alone in expression cry out against their fellows who are working for more dramatic representation; unwarranted exaggeration is the persistent charge. Yet the fanciful maps of the Middle Ages were more truthful in intellectual result than the best scientific maps of today that arouse only their correspondence in consciousness. But the fault is not in the maps, but in our inability to read the symbol.

It goes without saying that everything which tends to fuller geographic concepts aids in the interpretation of geographic symbols. The ease with which the untrained geographer reads a map depends upon its graphic qualities. Hence reliefs, shaded, and hachure maps offer fewer difficulties to beginners than contour, political, and those made according to the international color scheme, or other conventions. As has been said, the mapping of the region visited, using the different conventions which obtain in maps in daily use, is the surest way of understanding the symbols employed, but copying of maps, considered from the educative standpoint, has little, if anything, to commend it and much to condemn it. There is no mental activity in such a process, and much time is squandered which could be spent to better advantage.

If the student, in expressing his geographic concepts, is required to use a convention differing from the one employed in the map he has been studying, the demand will force him to interpret the map into terms of reality. If he has been studying contour maps, he should represent the relief of the area studied by modeling or by drawing with hatching lines, by shading, or by the use of some color scheme.

Progress in field and laboratory work, and the use of pictures, models, maps, and charts, in teaching geography are not the only signs which herald its progress. We are now beginning to see the relation which exists between the sciences and history. The influence of physical conditions upon the biological aspect of the race, which was so strongly brought out by Darwin and Lamarck, is now being applied to social relations. This new movement, as we wish to term it, was advocated by Herder two centuries ago when he said:

How does it aid a youth if he merely knows what has happened and cannot locate events? Only through the aid of geography will it become clear to him why certain people had to play a rôle upon the historic stage and could play no other; why sciences, inventions, and arts — indeed, the whole civilization — took the course it has taken and no other. Geography is the basis of history and history is nothing but the geography of times and nations set in motion.

John Smith, in his history of Virginia, published in 1623, says:

For as geography without history seemeth a carkasse without motion, so history without geography wandereth as a vagrant without certain habitation. He who studies the one without the other will undersand neither. Who despises both should live like the mole under the earth.

No historian of today would dare to claim a supreme indifference to geography. Man cannot go entirely beyond his physical environment, either biologically or socially. The effect of climate on the physical, mental, and moral condition of individuals is everywhere admitted, and the influence of topography and native products upon humanity can not be denied. Although geography has had a great influence upon human development, it furnishes only one part of the interesting story. It is true that the great fertile flood plain of the Nile, surrounded by a nearly impassable barrier, the desert, made Egypt's civilization one of the greatest which has blessed the face of the earth, but its decadence can hardly be attributed to geography. The abundance of marble, we now recognize, gave plastic art to Greece; and the geologic fault which made Wolf's cove possible changed the history of North America. Almost every social custom has a geographic basis.

With the increase of knowledge in these various directions has come the difficulty of selecting a course of study. It is impossible now for any individual to encompass the known geography of the world. Hence what not to teach is as important as what to teach. We cannot select a certain number of facts and say these facts are important, hence should be learned, because the important facts vary with every locality and, we may say, with every division of time. It may be that Hawaii seems important because of her present relation to us, but the world is gradually becoming so closely connected that it is impossible to decide who is our neighbor.

It is true that if we would be one with society, we must constantly feel the pulse-beat of social life. And the great industrial movement which is now sweeping everything before it, bringing science, art, literature, oratory, and the bayonet to its aid, cannot and should not be ignored; but it should not be given first place in our consideration. So great is the power of this movement that it can turn the heads of the wise and good, as I had evidence in India. I heard a man who is said to be one of the most learned and wisest of Anglo-Indians argue eloquently and feelingly in favor of the opium trade in India. He had lived in that country fourteen years, traveling yearly from one end of the country to the other, collecting material for a great museum of which he is director; yet he believes opium is of great value to the country. The glaring light of commercialism has blinded his ethical sight.

Since knowledge *per se* cannot be made the guide to the selection of a course of study, we must seek for it elsewhere. It is in the principles which govern the formation of the landscapes, and those which determine the distribution of peoples, their habits and customs, that we find relief. These, if properly mastered, become the keys which unlock the abstruse geography problems. The ability to interpret landscapes, to see their relation to cultural conditions, to use geographic symbols properly—pictures, models, charts, and literature—must in this day constitute the equipment of the geographer.

A course of study intended for an entire city or country can only designate the very broadest lines of study. For it is just as impossible for the suburban schools to use the same course of study, as the schools in the congested districts of the same city, as it is for the children of Jamaica to study the English botanies, which they have attempted with failure.

It is impossible to realize our ideals in teaching so long as the "factory system" obtains in our schools. No teacher can turn out forty pieces of humanity yearly, each bearing the same stamp, and not do violence to her better self.

Much of the departmental work is only "piece work"; it is not related to the life of the child. We need more handmade,

hand-modeled educational results; less recitation of pedagogic platitudes and more execution; more time spent in teaching the child and less in teaching the subject. Then the child will grow into an appreciation of the harmonies of nature, man, and natural law.

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